

Appl. No.
Filed

: Unknown
: Herewith

A²
--According to one aspect, the present invention provides a method of removing fouling materials from the surface of a plurality of porous membranes arranged in a membrane module, the porous membranes forming an array, the module having a header wherein said membranes are mounted, the header connected to a source of pressurized gas, the method comprising providing, through the header, gas bubbles in a uniform distribution relative to the porous membrane array such that said bubbles move past the surfaces of said membranes to dislodge fouling materials therefrom, said membranes being arranged in close proximity to one another and mounted to prevent excessive movement therebetween. The porous membranes may comprise hollow fibre membranes. Preferably, the fibre membranes are arranged in bundles surrounded by a perforated cage which serves to prevent said excessive movement therebetween.--

Please substitute the following paragraph for the paragraph beginning at page 3, line 8:

A³
--According to a second aspect, the present invention provides a membrane module comprising a plurality of porous membranes, said membranes being arranged in close proximity to one another and mounted to prevent excessive movement therebetween, the membranes forming an array, the module having a header wherein said membranes are mounted, the header connected to a source of pressurized gas so as to permit formation of, gas bubbles such that, in use, said gas moves through said header, and said bubbles move past the surfaces of said membranes to dislodge fouling materials therefrom.--

Please substitute the following paragraph for the paragraph beginning at page 3, line 15:

A⁴
--The gas bubbles may be provided from within the module by a variety of methods including gas distribution holes or openings in the header, a porous tube located within the module or a tube or tubes positioned to output gas within the module, the tubes may be in the form of a comb of tubes Another method of providing gas bubbles includes creating gas in-situ by means of spark type ozone generators or the like. Further types of gas provision are detailed below and in the preferred embodiments of the invention.--

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Please substitute the following paragraph for the paragraph beginning at page 3, line 23:

A5
--According to one preferred form, the present invention provides a method of removing fouling materials from the surface of a plurality of porous hollow fibre membranes mounted and extending longitudinally in an array to form a membrane module, said membranes being arranged in close proximity to one another and mounted to prevent excessive movement therebetween, the method comprising the steps of providing, from within said array, via the header connected to a source of pressurized gas, uniformly distributed gas bubbles, said distribution being such that said bubbles pass substantially uniformly between each membrane in said array to scour the surface of said membranes and remove accumulated solids from within the membrane module.--

Please substitute the following paragraph for the paragraph beginning at page 4, line 27:

A6
--According to a preferred further aspect, the present invention provides a filtration system including a membrane module according to said second aspect wherein said filter module is positioned vertically in a tank containing feed liquid to be filtered, means to apply a transmembrane pressure to said fibres in said array to cause filtrate to pass through pores in said fibres and means to supply continually or intermittently a supply of pressurized gas to said aeration holes so as to produce gas bubbles which move upwardly and uniformly between said fibres to scour the outer surfaces thereof.--

Please substitute the following paragraph for the paragraph beginning at page 6, line 27:

A7
--Detailed Description of the Preferred Embodiment--

Please insert the following paragraphs at page 6, after line 25:

A8
--Figures 15a-c show a comb of tubes containing holes, the tube sitting within a module and providing pressurized gas bubbles. Figure 15a is a front view of the comb of tubes. Figure

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15b is a top section view of the comb of tubes along Section A-A. Figure 15c is a top isometric view of the comb of tubes.

Figure 16 shows a module incorporating a porous sheet through which pressurized gas is supplied to provide gas bubbles.--

A8
cd

15b is a top section view of the comb of tubes along Section A-A. Figure 15c is a top isometric view of the comb of tubes.